

WE CLAIM:

1. A gas generator comprising:

a housing having a first end and a second end, and an inner peripheral wall defining a plenum, said first end fluidly communicating with a pressurized gas supply upon gas generator activation thereby supplying pressurized fluid flow through the housing;

a first seal covering said first end thereby preventing pressurized fluid flow prior to gas generator activation;

a notched support member fixed within said plenum and against said first seal thereby preventing pressurized fluid flow prior to gas generator activation; and

an initiator fixed within said housing and fluidly communicating with said plenum upon gas generator activation, wherein upon gas generator activation, said initiator creates a force sufficient to fracture said notched support member thereby releasing pressurized gas into said first end.

2. The gas generator of claim 1 wherein said pressurized gas supply includes a pressurized tank in fluid communication with said housing upon gas generator activation.

3. The gas generator of claim 2 wherein said pressurized tank has a sealed aperture to prevent fluid flow prior to gas generator activation, whereby upon gas generator activation, the sealed aperture is opened by a force of the pressurized gas to provide fluid communication between the pressurized tank and the first end of said housing.

4. The gas generator of claim 3 wherein said sealed aperture contains a second seal attached to said first seal, and said first

seal has a first face adjacent to said second seal, said second seal having a weakened portion approximately equal in area to said adjacent face of said first seal.

5 5. The gas generator of claim 1 further comprising a filter proximate to said second end and a plurality of gas exit apertures about said second end, whereby upon gas generator activation gas entering said first end passes through said filter and then exits said second end through said plurality of gas exit apertures.

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6. The gas generator of claim 1 wherein said support member has a top surface and a bottom surface, said support member being notched on at least the bottom or the top surface.

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7. The gas generator of claim 1 wherein said support member comprises an annular insert contoured to fit within said inner peripheral wall, and a notched portion integral to said annular insert and spanning across said plenum.

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8. The gas generator of claim 1 wherein said support member is integral to said housing and extends from said inner peripheral wall and across said plenum.

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9. A gas generator comprising:
a housing having a sealed first end and a second perforated end,
and an inner peripheral wall defining a plenum for gas flow therethrough;
a pressurized gas bottle containing a sealed opening, said sealed opening juxtaposed with said sealed first end thereby

providing fluid communication from said bottle through
said first end upon gas generator activation;

5 a notched support member extending across said plenum and
wedged against said inner peripheral wall, said support
member biasing said sealed first end against said sealed
opening thereby preventing fluid flow from said bottle
through said first end, prior to gas generator activation;
and

10 an initiator extending through said housing wherein upon gas
generator activation, the initiator produces a force that
fractures said notched support member to facilitate fluid
flow through said housing.

10. A pressurized gas generator comprising:

15 a housing containing a first end and a second end, a first opening
in said first end for fluid flow into said housing, a retainer
seal fixed within said opening for prevention of fluid flow
prior to gas generator activation, and an inner peripheral
wall defining a plenum;

20 a pressurized gas bottle sealably connected to the first end, said
gas bottle having a second opening defined by an annular
periphery;

25 a burst disc fixed over said annular periphery for sealing of said
second opening, wherein said burst disc is welded or
otherwise fixed to said retainer seal, said seal frangible
upon gas generator activation;

30 a notched support member wedged against said inner wall and
against said retainer seal thereby providing a bias against
the retainer seal and preventing gas fluid flow prior to gas
generator activation; and

a pyrotechnic initiator fixed within said housing, wherein upon activation said initiator fluidly communicates with said plenum and produces a gas stream that fractures said notched support member thereby releasing gas pressure from said gas bottle.

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11. The gas generator of claim 10 wherein said burst disc comprises a peripheral edge that congruently corresponds with said annular periphery, and a weakened portion that interfaces with said retainer seal, whereby upon gas generator activation said weakened portion is fractured from said burst disc as the pressurized gas is released into said housing.

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12. The gas generator of claim 10 further comprising a pair of opposing detents formed within said inner wall whereby said notched support member is wedged within said pair of opposing detents thereby fixing said support member across said plenum and against said retainer seal.

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